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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/588,806	06/06/2000	Li Mo	064731.0143	9568

7590 01/10/2005
Terry J Stalford Esq
Baker Botts LLP
2001 Ross Avenue
Dallas, TX 75201-2980

EXAMINER

HARPER, KEVIN C

ART UNIT PAPER NUMBER

2666

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/588,806

Applicant(s)

MO ET AL.

Examiner

Kevin C. Harper

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8,10-19,21,22,24-30 and 32-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8,10-19,21,22,24-30 and 32-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 22, 2004 has been entered.

Response to Arguments

Applicant's arguments filed August 23, 2004 (as entered with the request for continued examination) have been fully considered but they are not persuasive.

1. Applicant argued that Dobbins does not disclose a receive-transmit pair that includes a high-speed multiplexer and demultiplexer. However, the switch of Dobbins (fig. 5, item 11) includes a first and second port (ports 1 and 3), where each port must include a receive-transmit pair in order to transmit and receive data packets from connected end hosts (col. 5, lines 57-58; col. 3, lines 8-12 and 21-25). The switch transmits several packets from an end station to various links (fig. 5, items 15) as well as transmits several packets received from different links to the end station. Hence, the switch must have structure that allows multiplexing/demultiplexing to be performed for each port connecting an end host.
2. Applicant argued that Dobbins does not disclose that the first port and the second port are associated with disparate network addresses. However, the VLAN identifier allows packets to be routed to a particular destination or destinations (col. 3, lines 8-13 and 21-25) and meets the definition of an address. The first port is associated with VLAN 100 and the second port is associated with VLAN 20, which are disparate network addresses.

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3. Applicant argued that Dobbins does not teach a first and second routing model that comprises only topology of the respective group. However, in Dobbins, data is processed based on routing models that comprise only topology of the port group (VLAN) identified in a packet (fig. 7; note: topology of VLAN 100 and VLAN 20 for the switch is listed, where each VLAN has a specific access port topology. Despite a shared port, the topology of the VLANs are distinct and respective).

4. Applicant argued that Dobbins in view of Tang does not disclose an identifier to represent the port group as a single element to disparate elements. However, in Tang the MVLAN is associated with one VLAN identifier (para. 56, lines 9-14; para. 53, last three lines) that represents as an address for an entity outside the VLAN region acting as a disparate element (Tang, para. 25, lines 6-12), where the outside entity is not aware of the topology of the VLAN because only the MNDs have VLAN routing tables (fig. 3; para. 39).

5. Applicant argued that Dobbins in view of Tang does not disclose adding an internal transport overhead to an IP packet to generate an internal packet. However, in Dobbins an IP packet (col. 2, lines 14-16) represents a broadcast VLAN packet is forwarded to a specific host with an inherent address (col. 6, lines 7-12, 20-23 and 43-45) that must be added when forwarded according to FDDI (col. 2, lines 10-13).

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 30 and 31-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Dobbins et al. (US 5,684,800).

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6. Regarding claim 30, Dobbins discloses a node for telecommunication (Figure 5, one of items 11-14) comprising a first port (item 11, port 1) and a second port (item 11, port 3) where each port includes an inherent receive-transmit pair comprising an inherent multiplexer to process egress traffic and an inherent demultiplexer to process ingress traffic (note: traffic to an end station is from different sources and traffic from an end station is destined to different destinations -- col. 5, lines 25-31 and col. 6, lines 13-17). The node also comprises an interface to an external network (Figure 5, item 16 and other trunks to SFPS switches) connected to an internal network (ports 1-3) including the node. The node includes a processing system (Figure 3) to store a first routing model for a first port group including the first port (Figure 7, VLAN 100) and one other geographically distributed port (col. 7, lines 6-12) and to store a second routing model for a second port group including the second port (Figure 7, VLAN 20) and one other geographically distributed port (col. 7, lines 6-12). The first port is programmable to process traffic based on the first routing model and the second port is programmable to process traffic based on the second routing model (col. 6, lines 33-45). The first and second ports are associated with network addresses that are inherently disparate (col. 1, lines 33-35; col. 5, lines 14-30) and the first routing model and second routing model have distinct port group topologies (fig. 7; note: topology of VLAN 100 and VLAN 20 for the switch is listed, where each VLAN has a specific access port topology. Despite a shared port, the topology of the VLANs are distinct and respective).

7. Regarding claims 32-33, the processing system comprises an inherent first CPU to operate the node and an inherent second CPU to be the primary CPU for a port group or groups and to distribute the routing model(s) to each of the ports in the port group(s) (col. 7, lines 6-18).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-8, 10, 12-19, 21-22, 24-29 and 34-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dobbins et al. (US 5,684,800) in view of Tang et al. (US 2003/0165140).

8. Regarding claims 1-3, 5, 7-8, 12-13, 15, 16-19, 21-22, 26-27, 29 and 34-37, Dobbins discloses a transport element (Figure 1, items 11-14) comprising a port group (items 17-19; abstract, lines 1-4) which comprises several ports, point-to-multipoint connectivity between the ports (col. 3, lines 6-25; note: a broadcast packet from any member of a VLAN will be transmitted to all other members of the VLAN), and an identifier operable to represent the port group as a single element (abstract, lines 1-6; note: VLAN-IDs). However, Dobbins does not disclose that the identifier represents the port group as a single element to disparate elements (Figure 1, items 20). Tang discloses a multicast address that allows an outside end node to transmit to a VLAN (para. 25, lines 6-12; para. 56, lines 9-14; note: the MVLAN tag or ID is associated with only one VLAN when specified). As presented in the current claim amendment, the MVLAN-ID is a single network address representing several ports in a port group (para. 62, lines 1-10). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have a port group identifier that identifies the port group as a single element in the invention of Dobbins in order to simplify routing of data packets to multiple destinations.

9. Regarding claims 4, 6, 14, 28 and 38, in Dobbins the transport element (Figure 5, item 11) interconnects SFPS switches acting as IP routers (col. 5, lines 11-15; col. 2, lines 5-13) and

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Frame Relay switches (col. 1, lines 33-35 and col. 2, lines 10-13; note: Frame Relay is a standardized commonly used access technology).

10. Regarding claims 10, 24-25, 39 and 40, in Dobbins an inherent processor (Figure 3) generates and distributes routing information (Figure 3, item 88).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dobbins in view of Tang as applied to claim 10 above, and further in view of Feldman et al. (US 6,148,000).

11. Dobbins in view of Tang does not disclose a router information base (RIB) or a forwarding information base (FIB). Feldman discloses a RIB for providing a table for storing routing information for an entire network and for supplying information to a FIB which is used to determine appropriate output ports for packets (col. 8, line 61 through col. 9, line 14).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have a RIB and FIB for use in making routing determinations in the invention of Dobbins in order to efficiently determine appropriate routing decisions for packets.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Harper whose telephone number is 703-305-0139. The examiner can normally be reached weekdays from 11:30 AM to 8:00 PM ET. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao, can be reached at 703-308-5463. The centralized fax number for the Patent Office is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only (applications must be associated with a customer number). For more information about the PAIR system, see pair.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kevin C. Harper

January 4, 2005



DANGTON
PRIMARY EXAMINER